

Mr. Malcolm, with best wishes from Winifred Smeaton.

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TATTOOING AMONG THE ARABS OF IRAQ

BY

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TATTOOING AMONG THE ARABS OF IRAQ¹

By WINIFRED SMEATON

DURING the period 1933–35 residence in Iraq gave me the opportunity of making certain observations on tattooing among Arabs and other peoples living in the country. Comparable material is to be found not only in Egypt and North Africa, but also on the other side of the Arabian Peninsula, in Iran and India. Although evidence for the long history of the practice is to be found in certain places, notably Egypt, no attempt is here made to go into the history or origins of tattooing, but discussion is confined to the custom as it exists at present among the Arabs of Iraq.

The information was obtained in two ways. During 1934 as a member of the Field Museum Anthropological Expedition to the Near East (Henry Field, leader), I secured part of the data on tattooing and branding.² This information was obtained from observations on all the individuals of the various groups measured, with questions as to the purpose of the tattooing and the names given to the various designs. Another source of information was from conversations with and demonstrations by professional tattooers in several places, as well as a number of women, mostly patients in the Baghdad hospital, who were elaborately tattooed. The two most important Arab groups observed during the anthropometric survey, including both male and female series, were the Shammar Beduins and the Albu Muhammad, a Marsh Arab tribe. Men from another marsh tribe, the Suwa'id, were also included, as well as from the Dulaim and Anaiza Beduins. The rest of the information on the Arabs was obtained in towns: Baghdad, Al-Kadhimain, 'Amara, An-Nasiriya, and Mosul.

Tattooing, which is a wide-spread practice in Iraq, is known colloquially as daqq or dagg, from a root meaning to strike or knock, and as the name implies, it is tattooing by puncture. Occasionally a man with a literary background will employ the classical work washm, but daqq is the generally accepted Arabic word. Tattooing is a custom which already shows signs of disappearing, especially in the cities. It is rarely observed among the upper classes, and is despised by city-dwellers of the lower classes as well. On the other hand, the tribespeople and fellāḥīn still esteem it, particularly if the operation is performed in the town, and above all in Baghdad. Very often

¹ Read before the American Oriental Society, Middle West Branch, Chicago, March, 1936.

² A summary of tattooed designs among 398 Kish Arabs, 231 Iraq soldiers, and 38 Ba'ij Beduins has been published by Henry Field, *Arabs of Central Iraq, their History, Ethnology, and Physical Characters* (Anthropology Memoirs, Field Museum of Natural History, Vol. 4, 1935), pp. 455–56.

the tattooing is done by a townswoman, but in the towns themselves, according to an informant in An-Nasiriya, it is considered shameful to tattoo.

In Iraq it is found that tattooing is divided into two kinds, broadly speaking: ornamental or decorative tattooing, and tattooing applied for magic or therapeutic reasons. This statement is based simply on observation, and does not take into account the ultimate origins of the practice. Probably most tattooing has an ultimate magico-religious purpose, whatever may be its course of evolution. Magic and healing must of necessity be considered together, for the dividing line is arbitrary, especially among an unsophisticated people.

Generally the therapeutic and magic designs are simple and crude in form, with curative tattooing applied to the seat of pain or injury, whereas the tattooing done for the sake of beauty (*lil-ḥilā*) is more extensive and elaborate. But sometimes the divisions overlap, and a simple design will have no other reason than to be decorative, or an ornamental design will be employed for a therapeutic reason. Cauterization as well as tattooing is widespread among the people of Iraq as a cure for many ills, but this is a separate subject.

The most common kind of curative tattooing is for sprains. Another is tattooing against headache and eye disease. The tattooing is applied on the temple or forehead or near the eye. Tattooing is also used as a cure for local skin infection, and localized pain generally, and very often against rheumatism and cold.

All these, to our way of thinking, tend to be magical, but there is another type of tattooing which is avowedly magical, in which the tattooing is applied with the intention of helping to bring about some desired contingency. Magical tattooing is chiefly the concern of women, for here we enter the world of old wives' lore. Three recognizable varieties are found among the instances which came under my observation. The first is designed to induce pregnancy, a matter of great concern to Arab women; the second has the purpose of guarding children, especially boys, against death; and the third consists of charms for love or against other magic.

Tattooing to induce pregnancy was observed in only one case, but the practice was confirmed by statements from two other informants. One woman in the Baghdad hospital had three large dots irregularly placed on the lower abdomen, as well as a design around the navel. The dots in particular were to insure her having children, but she said she had already borne one child when the tattooing was applied. This was done on the third day of menstruation. A midwife from Al-Kadhimain, one of the best infor-

mants on the magic aspects of tattooing, also mentioned the practice of tattooing to insure child-bearing. According to her, the tattooing may be a single dot or a small design consisting of three or five dots, applied below the navel, or on the back just above the buttocks. It must be done on the second or third day of menstruation. A single dot in the center of the navel was specified by Kulthumah, the tattooer in An-Nasiriya.

A dot on the end of a child's nose is the most general form of magic tattooing encountered. In a country where the infant mortality is high, magic practices to preserve a child's life will be highly in favor. If a woman has lost several children, she will have the successive ones tattooed with a single dot, either on the end of the nose or on the lower abdomen. Some informants said that the magic effect was extended to later-born children, but others said that it was not effective for more than one child, and later-born children would have to be tattooed likewise. The tattooer in An-Nasiriya said that all the men in the village of Samawa are tattooed with a dot on the end of the nose, and one above the mouth on either side. This is done when they are children to make them look like girls so they will not die. A variation was observed in the case of a policeman in Baghdad who came of the Uzairij tribe. Instead of a dot on the nose he had on each temple a cross with a dot on each angle. His mother's previous children had all died, he said, so she had had him tattooed in this way to preserve him. He added that the design was also good for the head.

The efficacy of the third type of magical tattooing, which is a form of sympathetic magic, is aided by having someone read the Qur'an while the tattooing is being applied. This is practiced secretly by women, and I came across only one or two instances. In Baghdad I saw a woman with three dots tattooed in a triangle on the palm of her right hand to insure her keeping her husband's love. A similar design on the left hand would mean that the woman no longer wanted her husband's devotion. The midwife in Al-Kadhimain had a circle of five dots on the palm of her right hand. She said that she was her husband's second wife, and when he took a third, she decided that something must be done to ward off any possible conjuring on the part of the new wife. So one Friday noon, the most effective time, she had her right palm tattooed while a woman mullah read Qur'an. The potency of the tattooing could not be doubted, for the result was that her husband divorced both his other wives and kept her!

Besides the magic and therapeutic varieties, there is a vast amount of tattooing whose ostensible purpose is to beautify the wearer. Most Arab women, at least outside the cities, are so tattooed. Not only the face and hands are decorated, but arms and feet, back, thighs, chest, and abdomen.

Among the Albu Muhammad definite observations were made on only a few women, but from superficial observation it seemed that nearly all of them were tattooed. The husband of one Albu Muhammad woman stated that his tribeswomen tattoo extensively because the men like it, and refuse to marry a girl who is not tattooed. Among the total of one hundred and twenty-nine Shammar women observed, only three were not tattooed, and they were young girls.

A very pretty and elaborately tattooed girl from the neighborhood of Hilla, who was twenty years old and had been married seven years, was one of my richest finds, especially for the actual designs. Her tattooing had been applied not all at one time, but during the course of three years. During her tenth year, her face, forearms, hands, and chest were tattooed; during the following year, her thighs and back; and in her twelfth year, her feet and upper arms were tattooed. All this was simply ornamental, but she had also a little curative tattooing, namely, a single dot in the inner corner of the right eye because of pain in the eye, and three marks on the right thigh, done by herself, and a linear mark on the right foot, tattooed to cure pain in the leg, which occurred after childbirth.

Another informant at An-Nasiriya said that her face, hands, arms, and feet had been tattooed some time before marriage, and her thighs, back, and abdomen had been done at the time of her marriage—all in one operation, which took seven hours, and must have been exceedingly painful.

Although the idea was never suggested by any of my informants that tattooing is a puberty rite for girls, the fact is that for the most part, girls are tattooed about the time of reaching puberty, or at least before marriage, which is apt to occur not long after puberty. There seems, however, to be no sort of tabu attached to the operation, either for the person tattooed or for the operator.

Tattooing among the Arabs is not confined to the women, as one is sometimes led to believe, but is practiced to a wide extent by the men as well, although the latter for the most part confine theirs to the hand and forearm and the face. But tattooing of the face is not as common among men as among women, and where it is found among men, it generally has a definite purpose, magic or curative, while designs on the hands and arms may have such a purpose, or may be simply decorative. Sometimes it is admitted that such tattooing is for beauty, and sometimes, if the man is rather ashamed of what he considers a feminine method of adornment, he says it is *hīch*, nothing. It may be suspected that the typical wrist design displayed by men, which outlines the wrist and back of the hand, may have the fundamental purpose of strengthening the wrist, and in fact, this reason

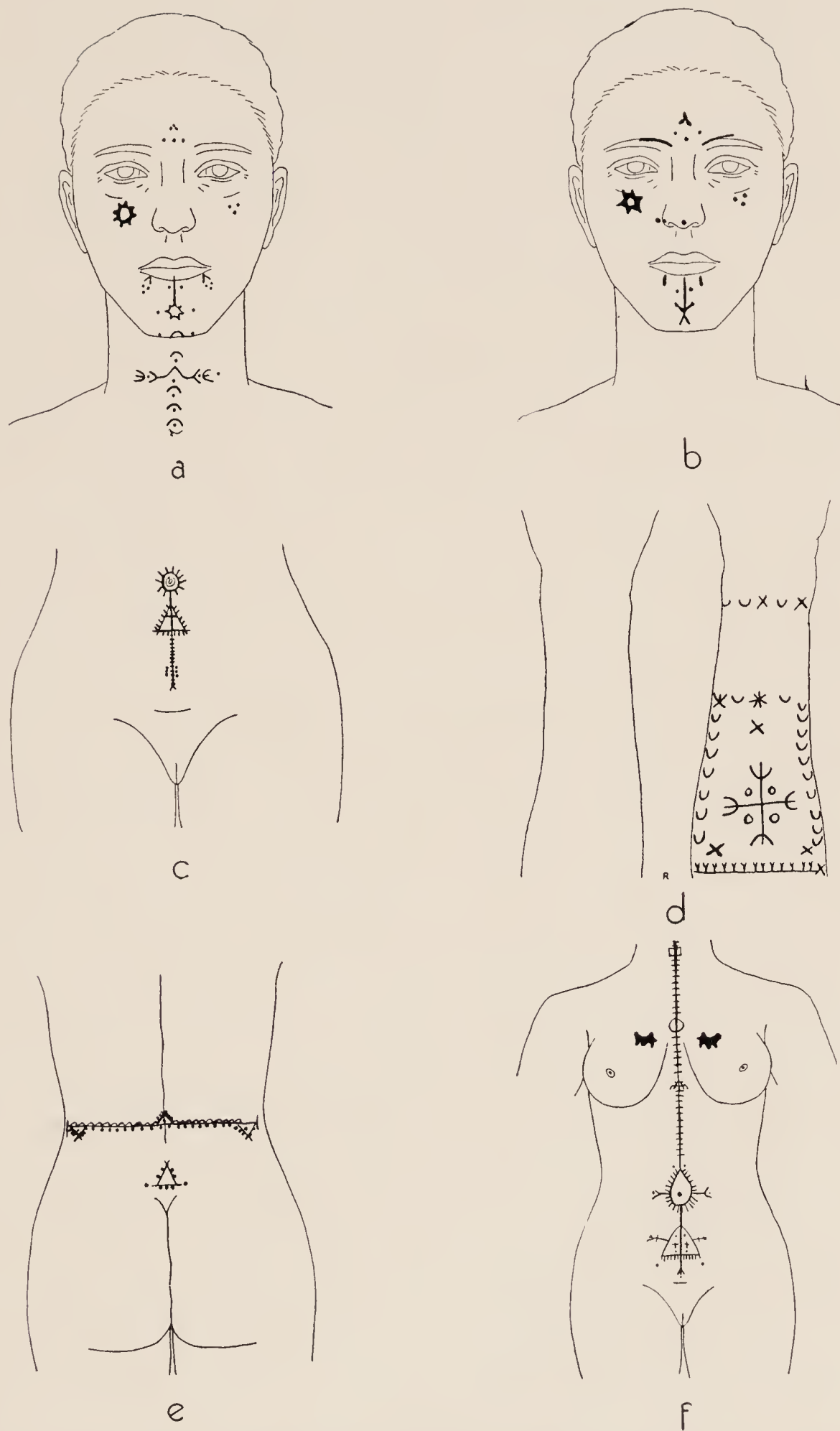


FIG. 1. Facial, body, and arm tattooing of Arab women. a-d, Women of Shammar; e, Non-tribal woman of Baghdad; f, Gypsy woman (Kaulia).

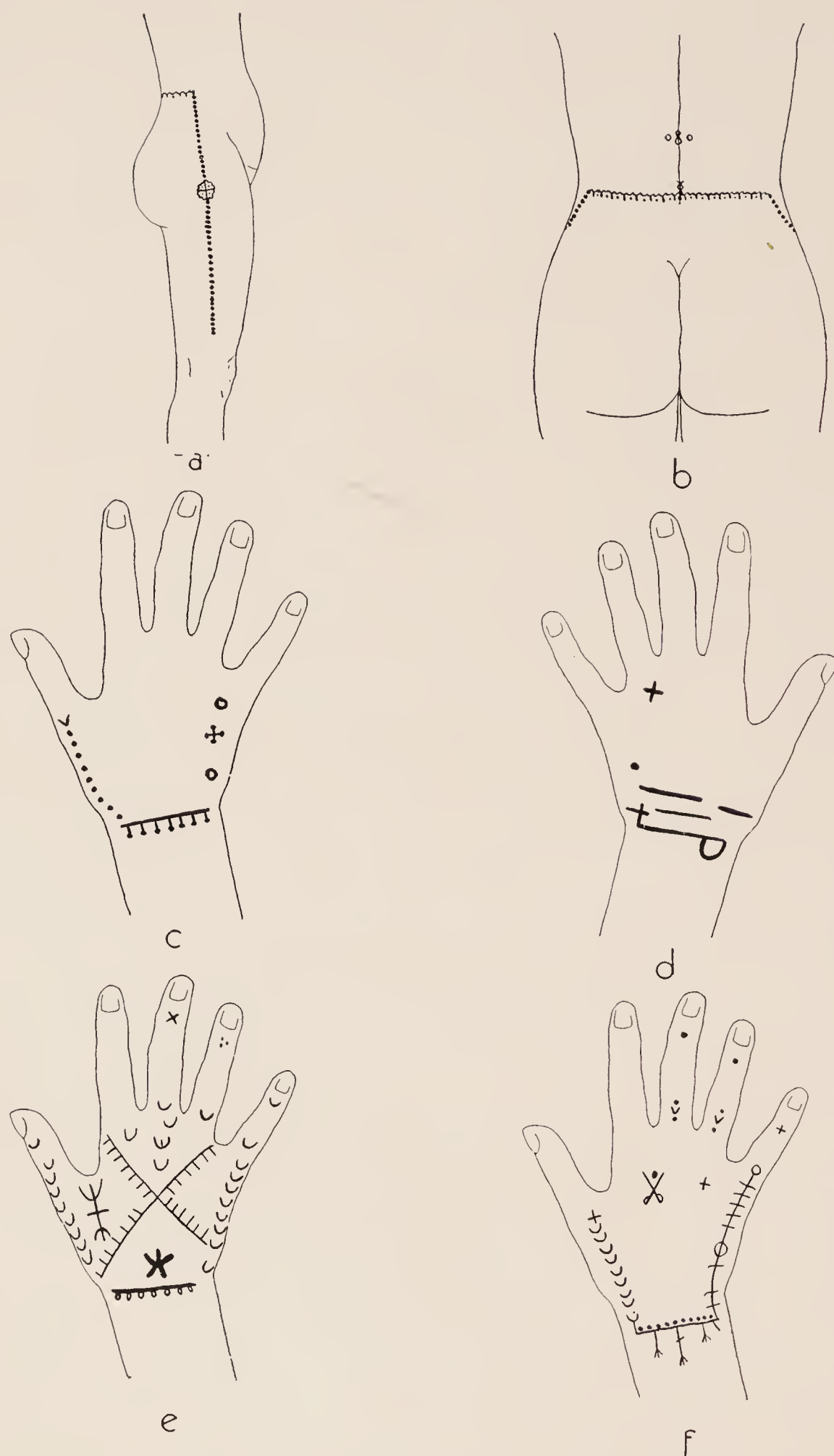


FIG. 2. Body and hand tattooing of Arab men and women. a, b, Woman of Albu Muhammad; c, d, Men of Albu Muhammad; e, Shammar woman; f, Dulaim man. Curative tattooing is illustrated in d.

was given by a professional tattooer in 'Amara. Many men were observed with lines tattooed across their wrists as a cure for sprains. Sprained wrists and thumbs seemed to be quite common, according to the number of cases in which tattooing had been resorted to as a cure.

Tattooing seems to be more common among men in the south of Iraq, that is, the Marsh Arabs near 'Amara, and the settled tribes of the district around An-Nasiriya, than among the Beduins. Among the latter, not more than one-third were tattooed, while among the settled tribes, at least three-quarters of the men were tattooed.

Nearly all tattooing among the Arabs of Iraq is done by women, mostly professionals. It is not a hereditary profession, but any woman who has the skill and inclination can become a *daggāgah* or tattooer. No evidence was produced to show that the tattooer must come from any specific group, except that in a few instances the tattooing was said to have been done by gypsies, or that she must undergo any preliminary ceremonies or observe certain tabus at any time. Much of the simpler sort of tattooing is done by mothers upon their children, sometimes when only three days old.

Arab tattooing is always blue in color, and the designs are geometrical, or sometimes extremely stylized representations of natural objects. There are various methods of making the pigment for tattooing, which is known as *koḥl* or *baṣmah*, but the principle is the same, for the chief ingredient is always carbon in the form of lamp-black. The word *koḥl* usually refers to the powdered antimony which is put around the eyes, but it is also used to mean lamp-black, which is used by the poor in the same way as the antimony. The carbon is precipitated by burning either the ordinary kerosene of lamps, or tallow, or a piece of cloth dipped in *dihn*, the mutton fat used for cooking. Sometimes indigo is added, or bile from the gall-bladder of an ox, which sets the dye, but the commonest method is to gather the soot precipitated on the bottom of a dish held over the lamp, and make a paste. Many people hold that the soot must be moistened with *ḥalīb umm al-bint*, the milk of a woman nursing a daughter, which has magic properties, but others say that it is not good, and use water or kerosene. The use of human milk was noted in several places, always the milk of a woman nursing a girl, as the milk for a girl is supposed to be specially soothing and cooling. On the other hand, the chief tattooer in An-Nasiriya said that it was not good to use milk because it attracted flies, and then the tattooing spoiled. She herself used the simplest of ingredients, the soot of kerosene moistened with water; and samples of her work were both clean-cut and of good color.

In all cases the instruments used are ordinary sewing needles of a varying number according to their size and the technique of the operator. Usu-

ally they are of a good size, but smaller than a darning needle, from two to four bound together for at least half their length. First the design, which in most cases depends on the taste and skill of the operator, is drawn on the skin with the needles dipped in the dye, and then pricked through. The tattooed surface may or may not bleed; whether it does or not is not important, except that some women in An-Nasiriya said that it is better to perform the operation in the morning because it bleeds a lot if it is done at noon. The tattooed area may be swollen and matter for three days. A scab forms, which comes off after three to seven days, leaving the design well fixed under the skin.

As for the designs employed, a great deal could be written on the subject, especially on the history of the names, and the comparison of the designs themselves with those found in ancient and modern times on pottery and textiles. The designs are geometrical or stylized. Generally they consist of combinations of dots and lines, especially zigzag and cross-hatched lines, circles, crescents, chevrons, triangles, stars, and crosses, and elaborations of these. The elements everywhere are the same, but of course in some districts certain patterns are used, which in other places are not known, or at least not held in favor.

The patterns also depend on the part of the body tattooed, especially in the case of ornamental tattooing among women, for curative tattooing is usually simple in form. Both men and women have the back of the hand and wrist tattooed, the whole design often being known as the "glove." Lines with some sort of cross-hatching or other decorations form the most important parts of patterns on the legs and arms, and down the chest. The latter type of design is found everywhere among the women, and consists essentially of a line which begins at the lower lip and runs down the chin, neck, and chest nearly to the waistline, and sometimes extends to the navel. Other designs on both forearm and upper arm circle the arm like bracelets, and similar designs are found on the ankles, although foot and ankle patterns do not necessarily go all the way around.

Women's eyebrows are frequently tattooed, and most women have some tattooing on the face, especially on the chin, and dots between the eyes and above the upper lip. Sometimes vertical lines on the chin are extended through the lower lip, and I have seen a few women with all of the lower lip tattooed.

The elements of the patterns are given their proper titles: star, crescent, zigzag, double zigzag, and so on, while the whole designs are generally named for the part of the body adorned: chin, chest, back, side, foot, or wrist. A design on the side of the cheek is known as "the shadow of the side-lock," and dots on the upper lip may be called "mustache" or "shadow of the nose-ring." A single dot on the face, and especially between the eyes, is

called "dimple." Rayed figures are known as "sun," "star," or "flower," while circles may be called "disc," "ring," or "moon." It is interesting to note that one or two of the terms used to denote small designs on the face refer originally to marks or blazes on horses. A design consisting of a line with single cross-hatching, particularly on the wrist, is often called "comb," but I am inclined to think that the design is derived from the figure of an animal, presumably a gazelle.

Conventionalized gazelles are perhaps the most interesting of the designs noted. Men particularly are fond of having a gazelle tattooed on the inner forearm. Women also have gazelles, on the forearm or hand, and sometimes in pairs on the breast, on each side of the line running down the chest from the face. Since representations of living beings are forbidden to Moslems, one is tempted to think that the tattooed gazelles may be survivals of an ancient totemism. Some of the so-called "combs" look very much like elaborated gazelles, while on the other hand, a simplified form something like a broad letter H is also called gazelle.

Another interesting and primitive design, which was found in all groups, is the cross. It is always found with arms of equal length, and frequently there is a dot in each angle. From ancient times, and in many places, the cross has had a certain magic function attached to it, and the idea is borne out by one of my informants, the midwife from Al-Kadhimain, who said that the cross, or as she called it, the four-sided, is the best, that is, the strongest design. The design of the dotted cross is by no means modern, for it is noted among those of tiles from Samarra,³ dating from the middle of the ninth century, and on fourteenth century potsherds found by Dr N. Debevoise⁴ in the neighborhood of Tell Dahab, near Tell Asmar. Another sherd bearing the same design was found at Tābūs on the Euphrates.⁵ Debevoise suggests that these stamped designs may be potters' marks.

This is but a brief summary of such notes and observations as I was able to make on tattooing among the Arabs of Iraq. It is hoped to publish a fuller account later, with special attention to the designs and names thereof. The present discussion, while by no means exhaustive or conclusive, will, it is hoped, contribute something to our knowledge of tattooing in southwestern Asia.

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³ Ernst Herzfeld, *Die Malereien von Samarra* (Die Ausgrabungen von Samarra, Forschungen zur islamischen Kunst, Ser. 2, Vol. 3, Berlin, 1927), pp. 75-78.

⁴ Staff member of the Oriental Institute Expedition of the University of Chicago, excavating at Tell Asmar during the season 1931-32.

⁵ Friedrich Sarre and Ernst Herzfeld, *Archäologische Reise im Euphrat- und Tigris-Gebiet* (Forschungen zur islamischen Kunst, Ser. 1, Vol. 4, Berlin, 1920), Vol. 4, p. 11.

QUININE

The History of a Great Experiment



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4 G. Smith, L.L.D., C.I.E.

QUININE

The History of a Great Experiment

THE remarkable success, scientific, and commercial, of the Government of India in naturalizing the quinine yielding cinchonas in the humid forests of the Darjeeling, and Nilgiri Hills, has conferred a boon on fever-stricken humanity second only to that of vaccination. Fifty years ago, and all through our occupation of the plains of India, malarial fever was the worst foe of the British soldier and European resident, while it silently swept off the natives by the hundred thousand every year. Then the sulphate of quinine, obtained only from the strictly reserved forests of South America, cost sometimes £5 an ounce in India, and never less than £1.

The Government spent £50,000 a year on this one specific, and its medical service complained that they were not allowed one-tenth of what was necessary to save soldiers' lives.

Now every rural post office among the seventy-seven millions of Bengal sells a five-grain packet of quinine for a farthing, and Dr. George King supplies the dispensaries and hospitals all over India with as much of the sulphate and its still cheaper febrifuges as they want, till this form of fever has ceased to be of account in the tables of mortality. Still the Government makes a profit on its cinchona plantations and quinine factories. What has brought about so silent and widespread a gain to humanity in little more than one generation? The story is worth the telling.

In 1852 Dr. Royle sent to Calcutta several seeds of the Calisaya variety of cinchona, procured by Mr. Weddell from the forests of Bolivia. These failed to germinate in the Botanic Garden. Next year Mr. Fortune, when on his way to China to report on the cultivation of the tea plant for India, brought out six plants, which were exposed to the other extreme of too high an elevation at Darjeeling, and they died.

The Mutiny Campaigns, which, raised the temporary strength of the white garrison of India to above 80,000, caused such mortality, and expense for quinine to prevent it, that Lord Stanley, the first Secretary of State for India, sent Mr., now Sir Clements Markham, to Peru. Markham knew the country when a midshipman off the South American coast, and he was at that time a junior clerk in the India

office. Accompanied by John Weir, a Scots gardener, he made Arequipa his head-quarters, and on the 27th March 1860, he managed to reach Puno, on the banks of Lake Titiosca, 15,000 feet above the sea. Up to 10th May, he explored the heights and hollows of the Peruvian province of Caravaya, and secured a collection of 529 plants, chiefly of the Calisiya variety, packed them on the backs of three Indians across the Cordilleras, and eluded the authorities, who were after him just one day too late. Of these plants 270 survived the heat of the Red Sea, and he set them out on selected sites on the Nilgiri Hills of South India. Again, the third time, all of them perished. The next stage was successful there. Mr. Spruce, a botanist, who had spent twelve years in Bolivia, sent a quantity of seed of the Succirubra variety, under the care of Mr. Cross, a practical gardener, and he introduced the culture near Ootacamund, whence it spread over the Nilgiri and Mysore region, side by side in some cases with coffee.

Meanwhile the Dutch authorities of Netherlands-India, where fever was even more fatal than in Bengal, had been quietly experimenting at Burbenzarg ever since 1854. Their first experiment, under Mr. Hasskarl, failed. Two years after, Dr. Junghuhn, a well-known botanist, allied with himself Dr. de Vrij, a chemist, and they succeeded in naturalizing, in the open air around the Dutch Governor-General's country seat, thousands of specimens of the Calisaya and Pahudiana cinchonas.

The Government of India determined to make another attempt in the Himalayas, where the noble Lady Canning personally interested herself in the matter just before her lamented death, which was due to the fever which she had thus thought to extirpate. A well-known Edinburgh savant, Dr. Thomas Anderson of the Bengal Medical Service, was at that time superintendent of the great Botanic Garden of Calcutta. He volunteered to visit the new Dutch plantation in Batavia, and to bring back the naturalized plants and seeds. The last night before her fever was proved to be deadly, Lady Canning spent at the country seat of Barrackpore, discussing with Dr. Anderson the details of his benevolent expedition. This accomplished botanist proved to be more successful than any of his predecessors, and it is from his plants propagated in Sikkhim and Bhutan that thousands of human lives, white and brown, are now saved every year. The Netherlands-India authorities received him with great courtesy. In the southern portion of Java, in the Kendeng and Malabar range of mountains, which rise from the plateau of Bandong to an elevation of from 6,000 to 7,000 feet, covered by dense forests, Dr. T. Anderson found the new home of the cinchonas. The soil is volcanic dust, the trees drip with moisture, spongy mosses entwine their roots, and the traveller is hidden from the sun. The mean temperature is from 62 to 66 degrees, and the rain-fall varies from 180 to 250 inches in the year. Returning from Java on the 11th November 1861, in the company of the distinguished geologist Baron von Richthofen, whom he met, Dr. Anderson introduced his precious charge first into the Nilgiris, where he studied the Madras sites, and then into the Calcutta Botanic Garden, preparatory to the open air

forests of the moist region of Darjeeling and the deep inner valleys of the Himalayas at a mean elevation of 6,500 feet. He was the first to make the growth of the quinine yielding cinchonas in the open air, a commercial and, therefore, a sanitary success. Alas! like Lady Canning, who had sent him to Java, he, too, became a martyr of Science, being suddenly cut off not long after, as the indirect result of his devotion to duty. Both died to save others, in a very true sense. Dr. T. Anderson had previously introduced the cinchonas to Ceylon, in the beautiful Peradenia Gardens of which, near Kandy, his three calisayas were growing vigorously in 1861.

Many Blue Books, from 1870 to the present time, detail the slow process by which, especially at Himalayan Sikkhim and the Nilgiri Ootacamund, the delicate and romantic experiments of 1852-1862 have converted into a splendid success. It will be enough if we take the latest complete facts for the year 1895-96, as these are reported to the Government of Bengal by the distinguished successor of Dr. T. Anderson, Dr. George King, C.I.E., F.R.S., who is about to lay down the office which he has made no less illustrious than the Scotsmen who preceded him, such as Colonel Kyd, of Forfarshire; Dr. Roxburgh, of Ayrshire; Dr. Buchanan-Hamilton, of Perthshire; Dr. Thomas Anderson, of Edinburgh. The bark collected for the chemical manufacture of sulphate of quinine and its febrifuge products, at the Sikkhim and Bhutan plantations has steadily risen from 2,400 lbs. in 1870, to 637,190 lbs. in 1896—a total of about seven and three-quarter millions of pounds in the twenty-seven years. Finding that, for the first time, these Bengal plantations could not keep pace with the demand of the natives for farthing packets of five grains of sulphate each, Dr. King, was compelled to purchase 170,000 lbs. of bark from certain tea companies in Darjeeling, and to refuse to supply any natives outside of Bengal proper. There are in the four divisions of the permanent cinchona plantations of Bengal upwards of four millions of trees or plants, chiefly of the calisaya, hybrid, and succirubra varieties, besides half a million in the nurseries. The number of trees uprooted for their bark was close on half a million. The Government Cinchona Factory produced 9,004 lbs. of sulphate of quinine, and 3,124 lbs. of the popular and still cheaper cinchona febrifuge, from 53,380 lbs. of red bark, and 413,810 lbs. of yellow bark. Besides the growing demand of the natives for the farthing packets, the Chitral Expedition caused larger indents from the medical depots. This year the Tirah expeditionary force and all that preceded it must have led to a far greater demand still for our troops in the fever-stricken valleys of Peshawar and Kohat. It is unusual to find a Government department lamenting that it has a surplus, and does not know what to do with it. A smaller coin than a copper pice or farthing is not issued, so that the natives cannot be charged less for their farthing packets; yet every year the Lieutenant-Governor has to receive a surplus of from £400 to £700 against his will. The capital cost of the plantations has long ago been paid off, and it is desired only to secure for the people a cheap remedy for fever, writes the melancholy Lieutenant-Governor.

From the moist cinchona forests of Mungpoo, with their rain-fall of 120 inches every year, where the yellow bark is produced, to the cells of the great jail at Alipore, where the farthing packets of quinine are prepared by the million, is a descent. But the writer saw no more interesting sight in India than that preparation by cleanly convicts hard by the Lieutenant-Governor's palace of Belvedere, in the suburbs of Calcutta, where Warren Hastings and Philip Francis fought their duel. In the huge piles of glittering white, on great tables in long cells, tower some two thousand pounds weight of the sulphate of quinine. It is rapidly weighed out in five grains and placed on the open papers, the outside of which is printed in the Bengali, or Orissa, or Santali, or Hindi, or other vernacular languages of the enormous province, and of Assam, giving directions for use. By deft hands these papers are closed, by a third set they are packed, and by a fourth the boxes are dispatched to every post office over a land half the size of Europe. We have the result coldly stated in the report of the Sanitary Commissioner, who establishes the scientific truth that the mortality from fever diminishes in direct proportion to the demand for quinine in each locality. The Lieutenant-Governor may well publicly thank his countryman, Dr. George King. Famine comes and goes once in a generation or two, but in that land of swamps and rivers, silting and overflowing, fever abides, and Government quinine alone defeats the universal enemy.



